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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,938	12/11/2003	Tieyu Zheng	P17133	7310

21186 7590 10/19/2005

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EXAMINER	
WILLIAMS, DON J	

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/732,938	ZHENG ET AL.	
	Examiner	Art Unit	
	Don Williams	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6-8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Epitaux et al (US2004/0021217).

As to claim 6, Epitaux et al disclose an optical transponder (600) with an optical receiver (660) housed in a package, which can be considered a first To can because of the nature of the package, the optical receiver capable of receiving optical signals at a rate of 10 Gb/s (see fig. 1); and an optical transmitter (610) housed in an inherent second TO can because of the inherent nature of the package, the optical transmitter (610) capable of transmitting optical signals at a rate of 10 Gb/s, wherein the optical receiver (660) and the optical transmitter (610) each have an insulating base (300), and each of the insulating bases have a plurality of electrical leads (410-1, 410-5, 420-1, 420-5, 430-1, 430-2) running through the insulating base into an interior of the optical receiver (660) and the optical transmitter (610), (see fig. 8, paragraph [0054], lines 1-14, fig. 3, paragraph [0040], lines 1-11).

As to claim 7, Epitaux et al disclose an optical transponder (600) with the insulating bases (300) coupled to a heat sink, (see fig. 6, paragraph [0045], lines 1-10).

As to claim 8, Epitaux et al disclose an optical transponder (600) of claim 7, wherein a housing of the optical transponder (600) serves as the heat sink, (see fig. 6, paragraph [0045], lines 1-10).

As to claim 10, Epitaux et al disclose an optical transponder (600) with an optical receiver (660) housed in a first TO can, the optical receiver capable of receiving optical signals at a rate of 10 Gb/s, (see fig. 1); the first TO can comprising a first insulating base (300) having a first surface (370) on an interior of the first TO can to which the optical receiver (660) is attached and having an opposite surface (330) on an exterior of the first TO can; and an optical transmitter (610) housed in a second TO can, the optical transmitter (610) capable of transmitting optical signals at a rate of 10 Gb/s, the second TO can comprising a second insulating base (300) having a first surface (370) on an interior of the second TO can to which the optical transmitter (610) is attached and an opposite surface (330) on an exterior of the second TO can, (see fig. 1, fig. 4, paragraph [0042], lines 1-13, fig. 6B, paragraph [0047], lines 1-13, fig. 6D, paragraph [0050], lines 1-13, and fig. 8, paragraph [0054], lines 1-14).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al in view of Wood et al (6,555,399).

As to claim 1, Ito et al disclose a first TO can (M1), having a first insulating base (11), a photodetector (31) mounted on a first side (12) of the first insulating base (11), second TO can (M2) having a second insulating base (11), a light generation device (231) mounted on a first side (11) of the second insulating base (11), (see fig. 8, column 4, lines 46-67, column 5, lines 1-67, fig. 16, column 11, lines 1-29). Ito et al fail to disclose a metal cap hermetically sealed to the first side of the second insulating base to enclose the light generation device (231). Wood et al disclose metal cap (20) hermetically sealed. It would have been obvious for one ordinary skill in the art to modify Ito et al to include metal cap (20) hermetically sealing the package as disclosed by Wood et al to improve the optical performance of the compact semiconductor package and to protect the compact semiconductor package from moisture, dirt particles, and other contaminants (see fig. 1, fig. 2, column 3, lines 1-23).

Claims 9 and 11are rejected under 35 U.S.C. 103(a) as being unpatentable over Epitaux et al in view of Ito et al (6, 948,863).

As to claims 9 and 11, Epitaux et al disclose an optical transponder (600), first and second TO can, (see fig. 8). Epitaux et al fail to teach impedance. Ito et al teach impedance. It would have been obvious for one ordinary skill in the art to modify Epitaux et al to include impedance, as disclosed by Ito et al to improve signal response by

converting the optical signal to an electrical signal allowing the TO-cans semiconductor package system to perform at an optimal level, (see column 8, lines 58-67).

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al in view of Wood et al and further in view of Epitaux et al (US2004/0021217).

As to claim 2, the modified Ito et al disclose the first and second insulating bases (11). The modified Ito et al fail to teach that the insulating bases are coupled to a heat sink. Epitaux et al disclose heat sink coupled to the substrate metalized layer (310). It would have been obvious for one ordinary skill in the art to modify Ito et al to include a heat sink coupled to the substrate metalized layer (310) as disclosed by Epitaux et al to improve the dissipation of the accumulated heat from the transistor outline semiconductor package allowing optimal optical performance of the transistor outline semiconductor package, (see fig. 6A, paragraph [0045], lines 1-10).

As to claim 3, the modified Ito et al disclose the first and second insulating bases (11). The modified Ito et al fail to teach bases physically coupled to a metal housing of the optical transponder, and the metal housing serves as a heat sink. Epitaux et al disclose a metal housing (300) of the optical transponder and the metal housing (300) serves as a heat sink. It would have been obvious for one ordinary skill in the art to modify Ito et al to include metal housing (300) of the optical transponder and the metal housing (300) serves as a heat sink to improve the dissipation of heat from the optical transponder system allowing optimal and efficient performance of the optical elements, (see fig. 6A, paragraph [0045], lines 1-10).

As to claim 4, the modified Ito et al disclose first and second insulating bases (11) having one flat side (12), (see column 2, lines 25-40).

As to claim 5, the modified Ito et al disclose optical transponder has an impedance of 50 ohms, (see column 8, lines 65-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Don Williams whose telephone number is 571-272-8538. The examiner can normally be reached on 8:30a.m. to 5:30a.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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